IN THE CIRCUIT COURT OF THE THIRTEENTH JUDICIAL CIRCUIT
OF THE STATE OF FLORIDA IN AND FOR HILLSBOROUGH COUNTY
CIVIL ACTION DIVISION

FLOYD J. KENYON, SR. and FLORENCE
KENYON, his wife,
Plaintiffs,

Case No. 00-5401
-vs- Division: "D"
R.J. REYNOLDS TOBACCO COMPANY, a
foreign corporation,

Defendants.
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TRANSCRIPT OF PROCEEDINGS

BEFORE: THE HONORABLE HERBERT BAUMANN
Circuit Judge
TAKEN AT: Courtroom Number 1
Hillsborough County Courthouse
Tampa, Florida
DATE: 27 November 2001
TIME: Commencing at 9:10 a.m.
REPORTED BY: Sherrill Lynn Jackson, RPR
Notary Public, State of Florida

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APPEARANCES:

For the Plaintiff:

HOWARD M. ACOSTA, ESQUIRE
300 First Avenue North
St. Petersburg, Florida 33701
Phone: (727) 894-4469

BRUCE H. DENSON, ESQUIRE
Whittemore & Ferguson, P.A.
One Beach Drive Southeast
Suite 205
St. Petersburg, Florida 33701
Phone: (727) 821-8752
Fax: (727) 821-8324

GREGORY H. MAXWELL, ESQUIRE
Spohrer, Wilner, Maxwell & Matthews, P.A.
444 East Duval Street
Jacksonville, Florida 32202
Phone: (904) 354-8310, extension 112
Fax: (904) 358-6889

For the Defendant R. J. Reynolds Tobacco Company:

STEPHANIE E. PARKER, ESQUIRE
JOHN F. YARBER, ESQUIRE
Jones, Day, Reavis & Pogue
3500 SunTrust Plaza
303 Peachtree Street Northeast
Atlanta, Georgia 30308-3242
Phone: (404) 521-3939
Fax: (404) 581-8330
Internet: Www.jonesday.com

TROY A. FUHRMAN, ESQUIRE
Hill, Ward & Henderson, P.A.
Barnett Plaza
101 East Kennedy Boulevard
Suite 3700
Tampa, Florida 33602
Post Office Box 2231
Tampa, Florida 33601
Phone: (813) 221-3900
Fax: (813) 221-2900

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GEOFFREY BEACH, ESQUIRE
Jones, Day, Reavis & Pogue
51 Louisiana Avenue Northwest
Washington, D.C. 20001
Phone: (202) 879-3939

ALSO PRESENT:
FLOYD J. KENYON, SR. (Plaintiff)
FLORENCE KENYON (Plaintiff)
APRIL GEORGE (Paralegal to Mr. Acosta)
DAN DONAHUE (Corporate Rep. of R.J. Reynolds)
CHARLES WRIGHT (Technical Assistant - R.J. Reynolds)
STEVE BERESHEIM (Technical Assistant - R.J. Reynolds)

I N D E X T O P R O C E E D I N G S

Witness or Proceedings Page

APPEARANCES 1922-1923
DAVID TOWNSEND, Ph.D.
Cross-Examination by Mr. Acosta 1933
CERTIFICATE OF REPORTER 2004
WORD INDEX. . . . . end

I N D E X T O E X H I B I T S

	For Identification	In Evidence
For the Plaintiffs:		
Exhibit Numbers AG-49, AN-566, AN-567, AN-1373, AS-359, AS-830, AS-1091, ASP-34, ASP-35, AT-700, AU-24	.1925	

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(10:10 a.m.) P R O C E E D I N G S

THE COURT: Good afternoon, Ms. Parker, Mr. Acosta, associated friends and counsel.

MS. PARKER: Just a couple of --

THE COURT: Go ahead.

MS. PARKER: -- matters before the jury come in. Your Honor had suggested that we file the pages from the transcript relating to the directed verdict issue on design defect.

THE COURT: Do you have that?

MS. PARKER: I do, and I've already served Mr. Acosta a copy.

THE COURT: All right.

MS. PARKER: We gave a copy to Your Honor's law clerk.

THE COURT: Thank you.

MR. ACOSTA: Your Honor, we'll have something for you --

THE COURT: I know, Mr. Denson is coming. That -- that's fine. Go ahead.

MS. PARKER: If I could just read in the record the exhibits and move these in. I've given this list to Mr. Acosta already.

AG-49, AN-566, AN-567, AN-1373, AS-359, AS-830, AS-1091, ASP-34, ASP-35, AT-700,

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AU-24. These were all exhibits that were --
THE COURT: Were referenced yesterday.
MS. PARKER: -- researched yesterday.
I move these into evidence.
THE COURT: And there was no objection, as I recall, Mr. Acosta.
MR. ACOSTA: That's correct, Your Honor.
THE COURT: Okay. They'll be admitted.
(Thereupon, Plaintiffs' Exhibit Numbers AG-49, AN-566, AN-567, AN-1373, AS-359, AS-830, AS-1091, ASP-34, ASP-35, AT-700, AU-24 were received in evidence.)
THE COURT: Is that it, Ms. Parker?
MS. PARKER: Oh, yes, just one thing Mr. Fuhrman has reminded me.
The two videotapes are ready to go. Ms. Vandy and Ms. Fife. Ms. Vandy is like five minutes, if that. Ms. Fife is 26 minutes. And so, we may play those this afternoon. But they are ready. My understanding is everything has been resolved on them.
MR. ACOSTA: No, it hasn't. We looked at Vandy's and there were items marked that we

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disagree with and do not believe -- what Your Honor has said before --

THE COURT: That's fine. I'll look --

MR. ACOSTA: Mr. Denson has those transcripts marked and --

THE COURT: Well, Vandy's the short one.

MR. ACOSTA: It is a very short one.

THE COURT: Yeah, so that will be easy.

MS. PARKER: So, is Fife ready to go?

MR. ACOSTA: I can't speak to that. Mr. Denson has that and I didn't have an opportunity to speak with him about Fife.

THE COURT: Well, as we -- as Mr. Denson indicated, he was in criminal court this morning. So, when Mr. Denson gets here, we'll address it.

MS. PARKER: I would like to play those this afternoon, one them, if we have time.

THE COURT: Well, my recollection was Mr. Denson was going to be here before the lunch break, so we'll just chat with Mr. Denson when he --

MS. PARKER: Tomorrow the schedule is we're getting out early again; is that

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correct?
THE COURT: Correct. Today is four and tomorrow is 3:00; is that correct?
THE BAILIFF: Yes, sir.
THE COURT: 3:00. One of the jurors has an appointment at sometime -- at early or mid afternoon.
Okay. All right. So -- apparently some of the jurors want to eat lunch back in the jury room during the break. So, I'm just letting counsel know --
MR. ACOSTA: Your Honor --
THE COURT: -- during our lunch break, there will be jurors in the jury room.
Yes?
MR. ACOSTA: There has been a request that I introduce Chris Ferguson and Greg Maxwell, and I believe, Your Honor's met Greg Maxwell before.
THE COURT: Correct.
MR. ACOSTA: Chris Ferguson is Kent Whittemore's partner. She's just going to sit here and watch for a while.
THE COURT: Okay.
MR. ACOSTA: And then there were, I

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believe, at least one of their lawyers that hasn't been introduced yet. And I know there's a Philip Morris lawyer out in the audience.

MS. PARKER: I'm not responsible for Philip Morris.

THE COURT: Well, they -- yeah, we --

MR. ACOSTA: I just don't know how many introductions we really need to do here and whether it's necessary at all.

THE COURT: Well, there's no -- we're not going to introduce any -- we can introduce individuals associated either with the plaintiff or defendant in this case.

Otherwise, it's a public hearing; anybody can come in and out. I don't -- I haven't noticed Mr. Maxwell -- I'm sorry, you're Maxwell.

MR. MAXWELL: That's correct.

THE COURT: Yeah. I haven't noticed him -- you doing any kind of participating so far, other than some brief encouraging comments, but I -- is he --

MR. ACOSTA: I'm happy to introduce him, if it's necessary. Then I'd request they

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that introduce the rest of their people, too.
MS. PARKER: Your Honor, this is their motion; they're the ones who raised it, not me.
THE COURT: Well, it's a public hearing. You -- everybody's entitled to come in as -- you know, even attorneys are members of the public and they are entitled to come in and sit through the hearing as long as the -- as there's not active participation, I don't require there to be introductions.
I haven't noticed -- you know, Mr. Maxwell's basically been sitting in the gallery. He's -- you're entitled to do that. You know, I know you chat with Mr. Acosta sometimes at the breaks, but you have -- from what I've observed, he hasn't been active.
MR. ACOSTA: He --
THE COURT: Or I wouldn't put him in the active category.
MR. ACOSTA: I'm going to put him in the active category for today. So, I'll be happy to introduce him.
THE COURT: All right. Congratulations.

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MS. PARKER: Would it be okay then if some of our young associates could sit in from time to time without having to be introduced?

THE COURT: Again, it's a public hearing.

MS. PARKER: Thank you.

THE COURT: Attorneys can come in and out. And they have. I mean, of course, you know, they're not all associated with the case, but during the course of this trial, there have been a number of members of the bar who have sat in for portions.

MR. ACOSTA: I need to raise two other things, Judge.

One is, I'm hoping that we can take a break between now and noon, because I know I'm going to have to use the restroom. I'm not going to be able to go all the way to noon, I just know that. If that would be okay --

THE COURT: I'm going to send you out right now. Okay? And then what's the other thing?

MR. ACOSTA: The other request is, Judge, I need to let the Court know and counsel for the defendant know that Mr. Kenyon

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did have his biopsy read and it was positive. So he still has cancer growing in his lung.

I -- I make that as a proffer and representation to the Court in the event the defendant takes a position that his cancer is not still there or it is not growing or that he is in full remission or something along those lines. Then we will --

THE COURT: I haven't heard any testimony on medical issues from the defendant so far. So, there hasn't you know -- we'll -- you -- you've notified the Court and opposing counsel. You haven't asked to use anything and at this point, I don't know what their testimony is. So --

MS. PARKER: Is there any need for me to respond?

THE COURT: At this point, I mean, no, until -- until there's some medical testimony. But at the point there's some medical testimony. You know, the scope of cross-examination is generally fairly broad.

MS. PARKER: This is the test --

THE COURT: So -- yeah, I know the recent tests. I'm just -- what's it -- my --

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we can -- I can go into it further, but at this point, I'll just note that what would -- what the plaintiff could get in as direct evidence is more limited than the types of inquiry they can make on cross-examination.

So, I'll leave it at that and I don't know that it's an issue. It may be, but I'll address it if it becomes an issue.

MR. ACOSTA: All right. Just wanted to let the Court be aware of that.

THE COURT: All right.

THE BAILIFF: Yes, sir.

THE COURT: Take a break and then Deputy Jones will get the jury.

MS. PARKER: Your Honor, Mr. Acosta told me he would use the screen. He has everything set up, so --

THE COURT: You may.

MS. PARKER: That will be fine.

(Thereupon, the jury entered the courtroom.)

THE COURT: You may be seated.

(Thereupon, the jury was seated.)

THE COURT: Good morning, ladies and gentlemen.

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THE JURY: Morning.
THE COURT: The Buccaneers came through. That's a good thing.
At this point, Mr. Acosta will proceed. Do you --
THE BAILIFF: You want to put that on the floor?
JUROR #5: Yeah.
THE COURT: Very good.
Mr. Acosta, you may proceed. Ms. Parker, you may move around.
MS. PARKER: Thank you, Your Honor.
MR. ACOSTA: Thank you, Your Honor.
I've been asked to introduce Greg Maxwell, who's sitting at counsel table with me today and may assist me during the course of this trial.

CROSS-EXAMINATION

BY MR. ACOSTA:

Q. May it please the Court. Good morning, Dr. Townsend.

A. Good morning.

Q. Earlier in your testimony, you testified that you had appeared in a case in which I represented the plaintiff. Do you remember that

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testimony?
A. Yes.
Q. I -- I never actually asked you any questions, though, have I?
A. No, you haven't. And I can't recall that we've even talked, actually.
Q. I don't think we've even met, have we?
A. No.
Q. Uh, you testified that you were an executive vice president at Reynolds; is that correct?
A. I'm currently an executive vice president, yes.
Q. Yes. And were you recently promoted to that position?
A. It's been about a little over a year ago.
Q. A year ago. Okay.
Now, during the last several years, going back to about 1995, you've testified in quite a few a cases, haven't you?
A. I've testified in a number cases.
Q. And the number is over 30, isn't it?
A. No.
Q. It's not over 30?

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A. No.
Q. How many is it?
A. I think this is my 17th trial, if I'm correct.
Q. Your 17th trial?
A. Over a period of about ten years.
Q. And in those 17 trials, the earliest one was 1993, according to the disclosure we got; is that accurate?
A. No, that's not. My first trial was a trial called Cooper in 1991, where I was asked to testify about cigarette design as I have here.
Q. All right.
Well, it says on this disclosure 1993; is that an error then?
A. That must be an error, yes.
Q. Okay.
And then the next one it shows was 1996; does that sound about right?
A. That's probably correct, yes (nodding head).
Q. So, from 1996 to this year, you've testified in 16 cases; right?
A. From 199 --
Q. 6. From August of '96?

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A. Well, that wouldn't be right. If this is the 17th case and I testified once in '91 and then testified once in '93, then that would make a different number, wouldn't it?
Q. Well, we have 17 on this list.
A. Counting this trial.
Q. Let me show this to you. I don't see this trial's name on there.
Can I approach, Your Honor?
THE COURT: You may approach.
BY MR. ACOSTA:
Q. (Hands item to the witness.)
A. I don't recall testifying in Anderson. We can correct this and give you an accurate list, but I think that is inaccurate.
Q. The list I have given then, at least to that extent, then, is not totally accurate?
A. Right. By my count, I think this is the 17th trial over a ten-year period; again, testifying in the area of cigarette design.
Q. They also indicate that you gave a deposition in Anderson in addition to your trial testimony? Do you not remember that?
A. I've given a number of depositions and I probably did in Anderson. But as far as trial

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testimony, what I -- what I said, I think, is -- is accurate.

Q. And then a number of these trials, of the 16 or 17, the testimony has been generally a couple of days or more; isn't that fair to say?

A. In some cases. In one case, it's been -- my testimony amounted to about two hours, actually. But more often than not, it's been a day or two.

Q. Well, in the Engle case, it was five days?

A. I stayed for a long time in Engle because of many of the questions that were asked of me.

Q. Okay.

And it appears that you testified about a total number of 60 days or something like that; does that sound about right?

A. I haven't really added that up. So --

Q. And as I understand it, you have been to seminars or seminar on how to testify in court?

A. No, I haven't. That's completely inaccurate. I have taken media training for talking with the press about certain issues.

The first time I did that was in the

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area of cigarette fire safety, because I was very involved in cigarette design research to try to make -- to try to determine cigarette designs that might be less likely to start fires and there was a less of press inquiries. But I have never --

MR. ACOSTA: Excuse me, Your Honor, I just asked him a simple question.

THE COURT: I understand. But he's -- he is entitled to explain.

But do answer -- Mr. Acosta asked the question, and do answer the question, but you may explain as you answer.

THE WITNESS: Thank you, sir.

But I have never been to training on how to testify in court.

BY MR. ACOSTA:

Q. Okay.

You brought with you to testify in this case a number of boards that you put up; is that right?

A. Yes, there was quite a number of boards, actually.

Q. And you were involved in the preparation of those; right?

A. Yes.

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Q. And a year ago when you testified, you had similar boards; correct?
A. Yes. The boards were similar because the story is essentially the same. It's the cigarette design story of Reynolds.
Q. Okay.
Now, Dr. Townsend, you're a part of the management at Reynolds; correct?
A. Yes.
Q. And you own Reynolds stock?
A. Yes.
Q. And as of last year, I believe you owned about 15,000 shares?
A. I don't know exactly, but that sounds about right.
Q. And last year, they were somewhere around 30, $32 a share?
A. That's probably right.
Q. And is it somewhere in the same range now?
A. No. It's in the $50 per share range.
Q. $50 per share range. And you have stock options?
A. Yes.
Q. And last year, your salary was about

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$180,000?
A. That's correct.
Q. And you had a -- an increase in salary since then?
A. Yes.
Q. And what's your salary now?
A. As promotion to executive vice president, my base salary went to about 260,000.
Q. Your base was 260, and last year, you got a bonus of $60,000 on top of it, so your base plus bonus a year ago was 240. What's your bonus this year?
A. I don't know. I haven't seen it yet.
Q. What is it predicted to be?
A. I really can't say. We're -- our bonus is tied to market share and the company performance, and I can't really predict what it will be.
Q. Well, the company performance has gone up since the stock went up from 30 to 50, didn't it?
A. The stock price has gone up. The company performance, particularly if you look at the share -- at the volume of our brands, the market share, it's been fairly stable overall.
Q. Well, do you -- do you expect to get a bonus this year?

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A. Probably, yes, but I have no idea how much.
Q. And so even without the bonus, you're making more this year than you did a year ago; correct?
A. Yes.
Q. And one of your jobs with Reynolds is to testify in trials like this; correct?
A. That is something I do for Reynolds because I think it's an important testimony to provide to courts. So, I view that as part of my job. However, it's a very minor part of my job. Running research and development is my real job.
Q. But the people at Reynolds like what you do when you testify, don't they?
A. Well, I can't -- I don't know about all the people at Reynolds.
Q. Well, they could remove you from your position if they didn't like you; true?
A. My position at Reynolds is not dependent on whether or not I testify at Court. My position at Reynolds is me being successful leading research and development; that is my job.
Q. Well, you agree that since you have a stake in the company through ownership of its stocks,

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since you're an executive vice president of the company, that you have a stake in how the company does, don't you?

A. Well, of course. And I want to see my company do well and beat the competition.

Q. And I believe you testified that Reynolds has spent billions researching; correct?

A. Yes. That would be my estimate.

Q. And I believe you testified they spent a billion just researching the Premier product; is that right?

A. What I said was we had spent, in my estimate, over a billion dollars researching, developing and getting to test market the Premier product.

Q. And the Reynolds sales of cigarettes are several billion dollars a year, aren't they?

A. Yes.

Q. And so, over the last 40 or 50 years, the percentage spent on research and development is about one percent of Reynolds' sales; is that true?

A. I think that would be probably a reasonable guess plus -- you know, it's within a few hundred million dollars.

Q. And the products that Reynolds designs

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and manufactures are the choice of Reynolds, aren't they?

A. I don't understand your question. What do you mean "choice"?

Q. Well, doesn't Reynolds choose to make the products it does?

A. We choose to make a number of products that we then put on the market. Ultimately, it's the consumer that makes the choice about whether they stay on the market.

Q. The consumer chooses whether or not to buy the product that you sell; correct?

A. Absolutely. And that's the determining factor of whether it's in the market or not.

Q. And if -- if they don't choose one, you make another one?

A. We're constantly making new products, developing new products that we hope appeal to the consumers.

Q. And before the consumer is given the option of buying your product, you're the one that chooses what to sell; isn't that true?

A. Well, certainly through research and development and marketing, we choose a number of different cigarettes that we test market and see if

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there -- if there's consumer appeal, to see if they are consumer acceptable. We make the choices of what we present to the market. Ultimately, the consumer makes the important choice about whether it stays in the market.

Q. And if nobody bought your cigarettes, Reynolds would go out of business, wouldn't it?

A. Oh, I think that's fair to say, yes.

Q. Now, do you, as a designer, expect the average person that buys your cigarette to know more about the design of that cigarette than you do as a manufacturer?

A. No. It's my opinion that -- that the scientists at Reynolds certainly know more about the design of cigarettes than -- than others.

Q. In fact, you'd agree that Reynolds knows more about everything that's in the cigarette than the people that buy the cigarette?

A. If you limit that question to the cigarettes that Reynolds manufactures and sells, I would agree with you. We know more about what's in the cigarettes and how those cigarettes are constructed, the products that we manufacture and sell, than other people.

Q. Now, Reynolds has a library, as you

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mentioned; correct?
A. We have a couple of libraries. We've been talking so far about the research and development library, which is located in my department. We also have a business library as well.
Q. Okay. What's the difference between the business library and the research library that we discussed so far?
A. The research and development library is full of scientific information, and it's dedicated to the Research & Development Department. It's the one that includes all the formal reports, the published information in the scientific literature from peer review journals, the laboratory notebooks, and all the like. So, that's where we house all of the technical data that R.J. Reynolds needs, and that's located in the Research & Development Department.
Q. Okay, and that library in the Research & Development Department, I believe you testified, has been in existence since about 1954; correct?
A. In the early 1950s when we established the Research & Development Department, yes.
Q. And that particular library, the one that we -- that's the one that you were referencing yesterday, isn't it?

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A. Yes.
Q. That's the one that you used, right --
A. Uh --
Q. -- as a researcher, as a designer of cigarettes?
A. Absolutely. That's where all the technical information is housed.
Q. And that particular library is not open to the public, is it?
A. No, it isn't.
Q. And I believe that you testified yesterday that Research & Development didn't get started at Reynolds -- that department, your department didn't get started at Reynolds until 1954. Was that your testimony yesterday?
A. No, I don't recall saying that as an exact year. What I did say was in the early '50s, because we had researchers in place even in 1953, because there are documents that exist dated 1953 in the Research & Development Department. So, what I said yesterday was in the early '50s.
Q. And that first -- well, let me ask you this: Dr. Teague, who we discussed, was hired back in 1953; right?
A. I don't recall the exact date he was

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hired. I do know he authored a formal report in 1953. So, he was on board in that year.

Q. Right. And then Murray Senkus was hired sometime in the '50s, wasn't he?

A. Yes, in the very early '50s. I can't remember when.

Q. And Murray Senkus became director of the Research & Development Department at Reynolds; correct?

A. Right.

Q. Did he ever reach the level of vice president?

A. I really don't know.

Q. Was there a structure like that back in the '50s and '60s where there was an executive vice president of research and development?

A. I really don't know what the management structure of the company was in detail at that point.

Q. And when are you familiar with the management structure? When did you first become familiar with it?

A. In detail?

Q. Yeah.

A. Well, I would say when I joined the company.

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Q. That would have been in --
A. 1977.
Q. '77; right?
A. Yes.
Q. Then you mentioned the stewardship program earlier. When did that begin?
A. When did --
Q. That begin?
A. The stewardship program has actually existed for many years. I can't pinpoint an exact date. I think in the '80s, however, we formalized that process and actually made it more rigorous than it had been in the past. But certainly before the '80s, we had stewardship in place, just not as a formal process.
Q. Well, how many researchers were in the Research Department back in 1955?
A. I don't know.
Q. '56?
A. I can't give you an exact number.
Q. Well, we know Dr. Rodgman was there in 1956; right?
A. I know that.
Q. We think Dr. Senkus was there in '56?
A. Yes.

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Q. We are pretty sure Dr. Teague was there in 1956?
A. Sure.
Q. Anybody else that was there back then?
A. I think there were a number of people like Gill Ashburn and a number of other people that were actually building up the research and development effort. You know, it started out by hiring some key scientists and then building up by adding technical support, technicians, other chemists and other scientists. So, there was a graduate build. That build began in the early '50s, but I can't at any point in time tell you -- particularly back in those days, tell you exactly how many people were in R & D.
Q. Well, today we know there's a lot, like 400 or something; right?
A. Yes. I testified yesterday there's over 400.
Q. But it started out with a small kernel back in the early to mid '50s, didn't it?
A. Yes, and that's generally the way you establish a new research and development effort. You build into it.
Q. It grew?

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A. Yes.
Q. Now, back in 1953, Dr. Teague did a survey of the literature and made recommendations to the company, didn't he?
A. Yes, he did.
Q. And he found that in doing that research, that actually much of the literature was difficult to find; true?
A. I don't know that.
Q. You don't know that?
A. I know that he found quite a lot of literature, and he summarized that in his report.
Q. And in any event, he had a fairly lengthy bibliography in that report?
A. That is correct.
Q. And he had a couple of tables in that report; right?
A. Yes.
Q. And in those tables, they were tables of animal studies that had been done since around 1911 or so. Do you know that?
A. Well, I -- Dr. Teague summarized quite a lot of literature. You're absolutely correct. It was a literature review. I mean, if you want to talk about specific tables, I'll be happy to, if you show

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me the report.
MR. ACOSTA: I'll be happy to do.
Your Honor, can I put that up on the screen, please?
THE COURT: You may.
THE WITNESS: May I have a copy of the full report, please?
MR. ACOSTA: Well, I'll see if I can find that for you. Hang on a second.
MS. PARKER: Your Honor, I have a copy, if that would speed things up.
THE COURT: Mr. Acosta, do you have it?
MR. ACOSTA: I have it.
THE COURT: Very good.
BY MR. ACOSTA:
Q. (Hands item to the witness.)
A. Thanks.
Q. Now, at page 15.
A. 15?
Q. Page 15. I'm sorry, it may not be page 15. It may be --
A. This is page 15 (indicating).
Q. Yeah, I've got the wrong page -- the wrong thing there. Well, I'm not sure of these pages. It's got R.J. Reynolds numbers on them in the

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upper right-hand corner, 4665. Do you see that?
A. I see numbers on the upper right-hand corner. I don't know whether they're Reynolds numbers or not.
Q. 885. You see those?
A. I see the numbers. I found the tables. I don't know that those are Reynolds Bates numbers necessarily, but that's fine.
Q. And you can see, Dr. Teague, that [sic] -- the first one up there is 190 something -- 1911, 1923, 1928. Then we get down here to 1930, and we see one that says "carcinoma." Then we see one in that far 1931 that says "canceroid." Then we see one in 1931, "carcinoma;" 1931, "carcinoma"; 1932, "too toxic"; 1932, "ear tumor"; and then if we go to the next page, 1934, "cancer"; 1936, "tumors"; 1937, "carcinoma"; 1937, "cancer"; 1939, "carcinoma"; 1939, "cancer"; 1939, "cancer"; 1940, "cancer"; "carcinoma"; 1941, "papillomas"; "carcinomatoid -- "carcinomatoid tumors'; 41, "metaplasia"; '42, "carcinoma."
These, you agree, were found in the literature by Dr. Teague; right?
A. These are cites from the scientific literature that Dr. Teague found.

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Q. Right. And he interpreted them and wrote this -- prepared this table? Is that your understanding?

A. My understanding is I think he prepared the table. I think he tried to interpret this information. I think Dr. Teague was a chemist, not a biologist. Nevertheless, I think he did a fine job reviewing the literature and providing this to the company.

Q. And he's the one that your company selected to do it; correct?

A. I don't know that. I don't know whether he did this on his own or whether it was on assignment; but, nevertheless, he did it. I think he did a very good job of surveying the literature.

Q. And this was at the beginning of Reynolds' effort to look into this subject, wasn't it?

A. That's correct. It makes sense to me that is the first place to turn to when you're just starting the research effort, which is to turn to the literature.

Q. So, then, what you're telling me then is that Reynolds didn't do anything back in the 1930s and 1940s to look into the issue of cancer and

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smoking?
A. I don't know what Reynolds did back then. I do know that there was not a Research & Development Department. We did form a Research & Development Department in the early '50s, as I've already testified.
Q. All right.
Now, Dr. Teague also found that the animal test methods were accurate, though rather slow, didn't he?
A. Can you point me to a reference?
Q. Yes, I can. Page 4.
A. Okay. Where?
Q. Well, I think it's probably the bottom paragraph there.
Well, let me ask it this way: Do you agree -- does Reynolds agree that animal testing methods are accurate, though rather slow? You agree with Dr. Teague?
A. I don't know what you mean by "accurate." I talked yesterday, not being a biologist, about how animal methods, including skin painting and animal inhalation, can be used for comparative purposes. You can test the smoke from one cigarette against the smoke from another in two

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sets of animals, and you can compare the results to see if there's any difference. If by "accurate" you mean reproducible, I think we have are reproducible methodology today. I don't think we had a reproducible methodology before Wynder's mouse skin painting in the '50s, but we certainly do have reproducible analyses today.

If by "accurate" you mean some relationship between that and human disease, I would say I don't think that exists.

Q. You don't think it's accurate?

A. I'm sorry?

Q. You don't think that animal skin painting tests are accurate in terms of predicting whether something causes cancer to a human?

A. I think that mouse skin painting studies are indicators, together with the results of other experiments as well, like inhalation studies, perhaps in vitro studies, test tube studies; and you take that, as I said yesterday -- the weight of the evidence will suggest that there are concerns about -- about cancer.

But if you're asking me, does the result solely from a mouse skin painting study relate directly to human disease or to cancer, my

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understanding is it does not; but again, I'd also caution that I'm a chemist, not a biologist. But that's my opinion.

Q. Well, didn't Dr. Teague, back in 1953, report to the company that the information that he obtained -- statistical information, and animal study information -- caused the company -- should cause the company to do some research on it? Isn't that what he recommended?

A. In a general sense, that was one of his recommendations. "Here's what I found in the literature. Here's my recommendations on work R.J. Reynolds should do."

Q. And as we've recognized from his research, Dr. Wynder's study was not the first study involving skin painting which resulted in cancer to an animal; true?

A. I think that's true with one qualification. Dr. Wynder's mouse skin painting study is widely regarded as the first successful mouse skin painting study, because he got results that made sense and were reproducible. You're absolutely right. It's not the first. A number of people had tried that in the past, largely unsuccessfully, either because they were using too

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small a population of animals or the application of the tobacco smoke condensate was different. But for whatever reason, a number of people tried to develop skin painting before Dr. Wynder. Dr. Wynder is regarded as being the first successful experimenter, though.

Q. In other words, all these studies that Dr. Teague found -- well, let me ask you this: Does he say anywhere in that report that those studies weren't successful?

A. I don't recall. That's been a long time since I read this.

Q. And, in fact, his conclusion was, in fact, that they were accurate; they were rather slow? Correct?

A. Well, you're taking this out of context. Again, I haven't read this in a long time.

Q. You think I'm taking it out of context. Let me read you the whole context.

"Several mouths have been used for testing the carcinogenic effects of various substances on animals. These test methods are accurate, though rather slow. After a more or less prolonged latent period, an active carcinogen gives rise to cancerous growth of the skin. Experienced

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technicians are able to determine within a day or two the time at which a thickening of the tissue is indicative of tumor formation."

Did I read that correctly.

MS. PARKER: Your Honor, under the rule of completeness, I would ask Mr. Acosta to read the bottom of page 5, the top of page 6 of that same document. Thank you.

MR. ACOSTA: The bottom of page 5?

THE COURT: You see the reference?

MR. ACOSTA: I -- I'm on page --

THE COURT: Miss Parker, show him what you're referring to.

MS. PARKER: The bottom of page 5 (pointing), the top of page 6.

MR. ACOSTA: "Some writers have attempted to produce experimental cancers in test animals by application of tars obtained from tobacco, tobacco smoke, and other -- and other materials derived from tobacco. The results of these tests, some strongly positive and others completely negative, have been inconclusive, though would -- though would seem to indicate the presence of carcinogens. Other workers have attempted to isolate

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carcinogens from polycyclic products from tobacco in the identification of known chemical carcinogens is reported. A later section will consider these in more detail. Because of the possible connection between tobacco smoking and cancer of the respiratory system, it is well for manufacturers of tobacco products to be aware of past and present cancer research. Accordingly, the remaining sections of this discussion will review in some detail the present status of cancer research with particular emphasis on statistical studies relating to cancer of the respiratory system to use of tobacco and on known carcinogenic compounds in their relation to compounds present in tobacco or tobacco smoke."

BY MR. ACOSTA:

Q. Did you follow along with that?

A. I did.

Q. Did I read it correctly?

A. I believe you did, yes.

Q. Thank you.

Let me ask you another question.

Let's take this off the screen for a

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second.

You would agree that, "The present rate back in 1953 of the increase of cancer of the respiratory system rather closely parallels the recent introduction and the rate of increase of cigarette consumption; and this, together with the fact that until very recently the vast majority of cigarette smokers have been men, has raised a very considerable question."

Do you agree with that?

A. From -- basically, I don't know the answer to that. You're outside my area, and I don't know whether that's true or not.

Q. Now, Dr. Teague was a chemist as well, wasn't he?

A. Yes, he was.

Q. And some of the chemical carcinogens that he reported finding was Cholanthrene; correct?

A. I don't remember whether he reported it as being found in here or not. He reported a number of polycyclic aromatic hydrocarbons as suspected in cigarette smoke.

Q. And Cholanthrene was one?

A. What he's doing is he's surveying. "A large number of polycyclic -- polynuclear aromatic

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compounds" -- that's the same thing as polycyclic aromatic compounds -- "together with related heterocyclic compounds have been found to be carcinogenic. An accumulation and discussion of all of such compounds is obviously beyond the scope of this discussion. Representative compounds will be considered. A generalized correlation of activity with structure will be given."

What Dr. Teague is doing in this section -- I am answering your question actually. What Dr. Teague is doing in this section is saying, "Polycyclic aromatic hydrocarbons are suspect; and, by the way, here's the range of polycyclic aromatic hydrocarbons that scientists believe may be carcinogenic," separate from the question are they in smoke. So, he has tables of the various compounds that chemists believe are polycyclic aromatic hydrocarbons that might be carcinogenic.

Q. And cholanthrene was one?

A. And cholanthrene is one of the polycyclic aromatic hydrocarbons that was thought possibly to be carcinogenic.

Q. And dibenzanthracene was one?

A. There are several different isomers of dibenzanthracene. The answer is yes.

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Q. And benzophenanthrene was one, 3-4 benzophenanthrene?
A. Yes. Now, you've got to understand there are different isomers for each of these. So, dibenzphenanthrene or dibenznapthophenanthrene, compounds like that can have different isomers or different arrangements of these aromatic rings.
Q. And chrysene was one?
A. Chrysene was on this list, yes.
Q. He's -- let me ask you this: Do you agree that there was rather general agreement that the incidence of cancer of the respiratory system has increased greatly in the last half century?
A. In the last half century?
Q. From '53 back?
A. From '53 back to the beginning of the --
Q. Well, the last half would be 1903 to 1953, if he wrote this in '53; right?
A. I don't know whether that's true or not. Again, I'm -- I'm just not equipped to answer that. I don't know.
Q. You referenced the Surgeon General's report. You know that there are tables in the Surgeon General's report that indicate that cigarette

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cancer rates climbed dramatically from 1900 up through and past the 1950s; and at the same time -- would you like to see those tables?

A. No. I'm waiting for you to finish your question so I can answer it.

Q. And at the same time, cigarette sales went up dramatically. Are you aware of that?

A. Okay. That's kind of a long question. Let me see if I can break it down.

First of all, I have read a number of the Surgeon General's reports. Probably none of them I've read fully from cover to back, but I have read portions of -- of, I think, all of them. What I have seen, as you suggest, is that cancer rates -- lung cancer rates have increased over the 1900s. If -- you know, I can't sit here, because this is really not my area -- I can't sit here and give you a quantitative -- quantitative discussion about how much it's increased or how rapidly. But generally it's fair to say that lung cancer incidence has increased over the 1900s.

You referred to it as -- you referred to it as "cigarette cancer rates," and I think what I've seen in the Surgeon General's reports is the total incidence of lung cancer from whatever cause.

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That's the first part of your question. Then I can't remember the second part of your question now.

Q. Well, you said you can't quantify it, can we put -- Your Honor, I would like to show the report and quantify this for the gentleman, if I can?

THE COURT: You may.

MS. PARKER: Your Honor, can I have a reference? May I have a reference?

MR. ACOSTA: I'll be happy to give you a reference. This is 1989 Surgeon General's report, page 659, and page 48. It's sort of cut off at the bottom there.

BY MR. ACOSTA:

Q. Dr. Townsend, you see this red line from 1930 up to 1990, age adjusted cancer death rates for selected sites, males, United States?

A. I see that.

Q. And over here, we have (pointing) adult per capita consumption, cigarette consumption, 1930 to 1986. You see a little blip there for the Great Depression? It comes up, and World War II. First smoking cancer concern somewhere around 1950 (pointing). Then consumption increases up through first Surgeon General's report, which is right here (pointing), 1964. And then we have a downturn and

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then a little up swing, and then a little decline. Do those two graphs agree with the position that Reynolds takes on lung cancer increases versus cigarette consumption in the United States?

MS. PARKER: Objection, Your Honor. Lack of foundation.

THE WITNESS: I'm --

THE COURT: I'll overrule. If you can answer, you may.

THE WITNESS: I'm not sure that Reynolds has a position on the consumption rates or the rates of lung cancer. You know, our position, as I said yesterday, is cigarette smoking carries inherent risks. I think anyone can go to any number of sources, the Maxwell report, the Surgeon General, and you can see that consumption of cigarettes has increased over the period of the 1900s. It did level out, and it has declined substantially.

BY MR. ACOSTA:

Q. You said cigarettes are risky; right?

A. Many times.

Q. In fact, I believe you testified there's no such thing as a safe cigarette?

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A. I didn't say that yesterday. I have said that many times, and not just in court.
Q. And - so, Reynolds' position is, in fact, that there is no safe cigarette?
A. Absolutely. There is no safe cigarette. What we've tried to do at Reynolds, however, is reduce the risk. But we'll be the first to tell you there is no safe cigarette -- completely safe.
Q. And --
MS. PARKER: Your Honor, may I have a cite?
THE COURT: You may.
BY MR. ACOSTA:
Q. Dr. Townsend, before I show this, can you tell me, when was it that Reynolds first concluded there was no safe cigarette?
A. I don't --
MS. PARKER: (Stands.)
THE COURT: Before you do that, I'll allow the question. Let Ms. Parker have the cite.
MR. ACOSTA: I'm sorry. That went off by accident. Excuse me, Your Honor.
THE COURT: All right.

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BY MR. ACOSTA:

Q. Dr. Townsend, when was it that Reynolds first concluded that there was no safe cigarette?

A. I don't know that there's a definite period where Reynolds said, "Oh, okay, now we understand that there is no safe cigarette." Because if you go back in the history of Reynolds, it's clear in the records that scientists and management at Reynolds understood that cigarettes represent a major risk, particularly for lung cancer, but also for other diseases; and that stems out of the epidemiology that really came together in the very early '50s. There has been no debate that cigarette smoking is a risk for those diseases.

Q. So, your testimony is you don't know when Reynolds concluded that there is no safe cigarette? Is that fair to say?

A. That's essentially what I said. Understanding that I think, at least in my review of the history of Reynolds we understood the risks based on the epidemiology. We understood that cigarettes pose risks, and so, if you're asking me to define a particular time where we said, "There is no safe cigarette," you know, I'm not sure I can do that. Because the corollary to that understanding is that

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there is no safe cigarette.
Q. But it's safe to say today that Reynolds' position is there is no safe cigarette?
A. Absolutely.
Q. Never has been, has it?
A. Never has been --
Q. A safe cigarette?
A. I think that's fair to say. Cigarettes pose risks and our job has been to reduce those risks, and we've been successful.
Q. Okay. Let me show you a table of -- when you discuss risks, you have to discuss it in terms of how risky it is, don't you?
A. I think it's important to know the relative risks, if you will, which is at least one measure. Now, I'm not an epidemiologist either. You may be talking to the wrong witness. But I think it's important to know what the relative risk is or how risky it's -- how risky smoking is compared to other risks for certain diseases.
Q. Sure. Let's look at the chart on page 160 of the 1989 Surgeon General's report. Estimated risks of various activities: Annual fatalities per one million exposed persons. Active smoking, 7,000. What's -- alcohol is number two; correct?

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A. According to this chart. I don't understand how these numbers are arrived at, but on the chart alcohol is number two.

Q. And for disease, it's 266. If you're comparing smoking disease with alcohol disease (pointing), would you agree that 7,000 to 2666 -- 2666 -- 266 is approximately 28 to one?

A. Are you asking me if I agree that those numbers are accurate?

Q. I'm asking you to agree -- whether you degree that 7,000 for active smoking versus 266 for alcohol would put cigarettes, if that's true, at 28 to one a greater risk of disease from alcohol, the number two killer?

A. I don't know. I simply don't know whether that's true or not. I do know that cigarettes pose a strong risk. The relative risk for cigarettes is high.

Q. If you take all these other causes, you can see that cigarettes are greater than all of them together; right?

A. According to this table, that's a conclusion one might come to. Again, I can't interpret this table.

Q. Let me ask you this: Does Reynolds

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disagree with the Surgeon General on this point?
A. Again, I don't know. You're outside my area. I don't know whether that's right or not.
Q. Well, don't you design your cigarettes to try to eliminate risk?
A. Absolutely, and the way we do that is by understanding that there are clear risks that cigarette smoking is risky, and then we go to determine how we can reduce those risks. To do that as a cigarette designer, you don't need to understand what's driving the risk -- I mean, what the absolute magnitude of the risk is or how it compares to other thing. You have to understanding that it's risky, develop theories about how to reduce those risks and accomplish it in the marketplace.
Q. So, it's pretty important to understand how severe the risk is before you decide to make changes to your cigarette, isn't it?
A. No. That's exactly what I was saying. I believe that as long as you understand that it is a serious inherent risk, whether the relative risk is one number versus another, makes no difference in what a cigarette designer does. Because a cigarette designer or product developer will go out and develop theories of how to reduce the risk regardless of how

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big the relative risk number is from an epi study is -- epidemiology study is. You go through the same process regardless.

Q. Do you agree that cigarettes skill one in six Americans as of 1989?

MS. PARKER: Objection, Your Honor. Beyond the scope, beyond his area of expertise.

THE COURT: Overruled. If he knows, he can answer.

THE WITNESS: I really don't know.

BY MR. ACOSTA:

Q. Let me show you at page 11 of the Surgeon General's report from 1980. You see where it says "smoking is responsible for more than one of every six deaths in the United States." Smoking remains the single most important preventable cause of death in our society." Does Reynolds agree with that, yes or no?

A. I don't know that Reynolds agrees or disagrees. Again, I mean, you're so far outside my area.

Q. You don't know if as a designer and manufacturer and seller of a product and as executive vice president of Reynolds whether or not Reynolds

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agrees or disagrees with that?
A. Again, that's a statement -- will you put it back up there, please.
Q. Sure, I'd love to.
A. Thank you. And I'm sure that most everybody in the country has seen something like this. Maybe couched in a different way. "Smoking is responsible for more than one of every six deaths in the United States." If you're asking me do I believe that is an accurate statement? My answer is I don't know. I don't no whether that's accurate or not. I know the Surgeon General and others have used that kind of statement or even other types of statements to tell people that cigarette smoking is a major risk for lung cancer and other diseases. If you're asking me, is that exactly an accurate statement; I don't know.
Q. Now, I understand that you don't know, but my question is really whether Reynolds knows. You understand the difference in my question?
A. Yes.
Q. Does Reynolds know?
A. I don't think Reynolds knows any -- any more details about a statement like that than anyone else. I think that kind of statement is arrived at

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from -- from quite a lot of different statistics, and -- you know, frankly, you know, I don't think Reynolds has any reason to agree or disagree at this point.

Q. You'd agree that this Surgeon General's report was prepared by a committee of many, many, physicians and statisticians and epidemiologists and toxicologists and psychiatrists and physicians of all sorts; true?

A. I agree that there's a large number of people that prepare the Surgeon General's report.

Q. Didn't Reynolds participate in it?

A. We've participated and provided information and consultation to several committees. I don't know whether we provided consultation for that particular one.

Q. Do you agree that as of 1989 that 43 chemicals in tobacco smoke have been determined to be carcinogenic?

A. I would generally agree with that. Carcinogenic either -- they wind up on the IARC list, the International Agency for Research on Cancer. And the IARC will actually classify different chemical compounds as known human carcinogens, probable human carcinogens, or possible human carcinogens. Now, if

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you take all three categories, lump them together, and say, "What are on those lists that we know are in tobacco smoke?" we and others go back to the known information about these constituents that are present in tobacco smoke, and we compare the two lists, and yes, it's roughly 43. It may actually be a few more than that.

Q. Well, a couple of the ones that we talked about yesterday were benzo[a]pyrene; for example; correct?

A. Benzo[a]pyrene is a suspected carcinogen. It's in tobacco smoke. It is actually an IARC class 2A or B. I'm not sure, which means it's either a possible or a probable carcinogen.

Q. Aren't you aware that in this report that it indicates -- well, let me strike that.

Are you saying that benzo[a]pyrene is not a known human carcinogen?

A. Yes. I'm saying that according to IARC, the International Agency for Research on Cancer, they have not classified benzo[a]pyrene as a known human carcinogen. They have classified it either as a 2A or to 2B, I can't recall -- which is either a possible or a probably human carcinogen.

MS. PARKER: Your Honor, may I see

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this, please? I'll be happy to show it to her once I find it and do anything at all with it.

THE COURT: That's fine, Mr. Acosta. When you find it, let Ms. Parker know the source of what you're planning to refer to.

BY MR. ACOSTA:

Q. I'm going to ask you a question again a little bit differently. Would you agree, Dr. Townsend, that benzo[a]pyrene is a probable human carcinogen?

A. I would agree that it's either a 2A or 2B. I don't recall. It's either a possible or a probable. IARC has three categories: Class 1, which is known human carcinogens; class 2A, which are probable human carcinogens; class 2B, which are possible human carcinogens.

Q. And the IARC lists benzo[a]pyrene as A possible human carcinogens?

A. That may be right. Again, I don't recall. It's 2A or 2B. But it's not a class 1 carcinogen.

Q. Back in September of last year, on page 24, line 20, you were asked:

"And with sufficient evidence for IARC, evidence of carcinogenicity; correct?"

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You answered, "In lab animals, yes."
"QUESTION: Well, also in humans; right?
Your answer: "It says 'probable human carcinogen.'"
You want to see this?
A. No. I'll take your word for it. I think that's what I was saying anyway.
Q. And another one of these carcinogens that you talked about yesterday was nitrosamines?
A. Nitrosamines, yes.
Q. Right. And some of them are what you call nicotine-specific; correct?
A. I call them tobacco-specific because they're found only in tobacco and tobacco smoke. They derive from the reaction of nitric oxide with nicotine or other nicotinic alkaloids.
Q. And you say tobacco-specific, but the two that are involved, they're called -- one's called NNN and the other one is called NNK; right?
A. Yeah, those are acronyms, yes.
Q. One of the Ns in those acronyms means nicotine, doesn't it?
A. Yes.
Q. Now, going back to questions I asked

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you a couple of minutes ago, we talked about how many people are at risk from smoking cigarettes. Remember that testimony a few minutes ago where you --

A. Are at risk?

Q. -- well, I showed you relevant risk tables, and I showed you how the risk of cancer has gone up and so forth; right?

A. Well, that's not very precise language. How many people are at risk?

Q. Well, let me ask you this --

MS. PARKER: Your Honor.

MR. ACOSTA: I'll strike that. I'll ask him another question.

THE COURT: All right, go ahead.

Mr. Acosta, ask the question and then give an answer and then we can do further questioning.

BY MR. ACOSTA:

Q. Do you agree -- not you, I -- does Reynolds agree -- does Reynolds agree that in 1985 approximately 390,000 deaths were attributable to cigarette smoking? Reynolds agree with that?

A. I don't know that Reynolds agrees or disagrees with it. I really don't know.

Q. Does Reynolds have its own figures of

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how many people die each year from cigarette smoke?
A. Again, I don't -- I don't know that Reynolds agrees or disagrees with what the Surgeon General has said along those lines. I simply don't know.
Q. Well, my question is a little different though. Does Reynolds keep its own statistics about how many people die from smoking Reynolds cigarettes?
A. Reynolds doesn't do those types of statistics or those types of epidemiology. We're not expert in the field. We do, however, talk to epidemiologists. We evaluate and work with certain epidemiologists to try to understand what is known about the relative risks of smoking.
Q. And you would agree, wouldn't you, that the per capita consumption of cigarettes increased in the 1950s?
A. I think that's an incomplete statement. I've already testified a few minutes ago, it increased. It plateaued and it's declined substantially. In fact, today, there are more ex-smokers than there are current smokers.
Q. I'm talking about in the 1950s. Didn't it --
A. You're question was broader than that,

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but okay.
Q. I didn't mean to make it broader.
Would you agree that per capita consumption of cigarettes increased during the 1950s?
A. Yes, and then it plateaued and declined substantially.
Q. It actually increased up through 1961?
A. I think that's probably fair, yes.
Q. And then in 1962, it didn't increase?
A. Uh --
Q. But then in 1963, it increased; correct?
A. Well, see, I'm not sure it's fair to look at individual datapoints, one generally looks at that kind of data as a trend; and if you look at the data as a trend, certainly it increases probably well into the -- into the '70s, late '70s, early '80s.
Q. Now, per capita consumption is how many cigarettes are smoked by an average consumer in a given year; right?
A. I think it's the number of cigarettes smoked per number of smokers.
Q. And back in 1960, it was 4,171 cigarettes smoked a year? Does that sound right?
A. I have no idea.

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Q. By 1987, it was 3,196 smoked per year?
A. So, you're saying the per capita consumption went down for that period?
Q. Went down (nodding head)
A. In general, that's consistent with my understanding, but the actual numbers, I don't know.
Q. Now, we talked -- you -- your job at Reynolds, as I understand, was to attempt to make cigarettes less risky, and you've been trying to do that since you got there?
A. That's been a major part of the job, yes. It's not the only job.
Q. And, in fact, Reynolds started trying to do that back in the 1950s; is that right?
A. As I testified yesterday, we began in the early 1950s looking at two major pathways to try to reduce the risk to smoking. One was selective reduction of specific compounds. The other was general reduction. And both of those have carried on in parallel.
Q. And that would be -- general reduction would be to try to remove tar and nicotine; correct?
A. General reduction is reducing the entire -- or reducing the level of tar and nicotine yield from the cigarette and thereby reduce exposure

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to the smoker of all the constituents in the tar.
Q. And I believe you testified that back in the 1950s Camel had somewhere around 31 milligrams of tar. Does that sound about right?
A. No. That doesn't sound about right. In fact, Camel was in the high 30s.
Q. Oh, in the high -- so, it had even more than that.
Well, you -- you remember briefly -- well, let me ask you this: Isn't it true that back in the '50s that the switch to filter cigarettes encouraged quite a few smokers to start smoking filters?
MS. PARKER: Your Honor, objection. Relevancy.
THE COURT: I'll overrule it. Go ahead and ask.
THE WITNESS: I'm sorry. Could you repeat that, please.
BY MR. ACOSTA:
Q. Back in the 1950s, a lot of filter cigarettes came out on the market, didn't they?
A. In the very early 1950s there were a number of very small brands that a number of companies tried to market. They really weren't very

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successful. The first successful filtered cigarette was Winston when it was launched in 1954.

Q. And you'd agree that the boom of filter cigarettes that occurred back in the 1950s was basically the Salvation for the industry, people switched to filters thinking that they were less risky; true?

A. No. I don't agree with that interpretation at all. I think the build -- the gradual build of market share of Winston and other filter cigarettes was steady. It wasn't like it was a complete switch or a -- a Boone to the industry necessarily in those early days. It did build, and the good news is it built to a point where -- and I don't remember the exact date, but a point where virtually 98.5 percent of the total market was filtered cigarettes. And that was a change in the right direction.

Q. Well, let me -- do you remember the Reader's Digest article that was discussed on July, 1957 in your direct testimony?

A. Sure.

Q. Let me show you something from page 33 and page 34.

THE WITNESS: Do you have a copy of

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that that I can --
MR. ACOSTA: I don't have extra copy, I'm sorry. I have one copy that I can put on the screen or I can show it to the witness first if you'd like. I'll be happy to --
THE WITNESS: Why don't you go ahead and put it on the screen.
THE COURT: Why don't you come up and show it to the witness, and then I'll put it on the screen, Mr. Acosta.
MR. ACOSTA: Can I point out which part I'm going to show?
THE COURT: Sure.
MR. ACOSTA: Beginning here and ending here.
THE WITNESS: Okay. (Hands item to counsel.)

BY MR. ACOSTA:

Q. It says, "the tobacco men were in dismay, this will blow over like other blasts, declared the chief executive of NATD, said a Kansas City wholesaler."
Is that the National Association of Tobacco Distributors?

A. I'm not really sure.

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Q. In any event, it says "people enjoy smoking and aren't going to quit, but they will likely go for filters. The tobacco men's confidence was based on experience since 1953-54 when the cancer caused a slump in the cigarette market. Sales have bounced back amazingly. This year, they seem to be headed for an all-time high. The filter-type cigarette has been the salvation of the tobacco industry."

Did I read that correctly?

A. I believe you did, yes.

Q. Now, you mentioned a minute ago that Camel had a high 30s in tar. Reader's Digest reported back then that Camel had 31; correct?

A. Actually, you -- that is correct, and let me explain. Actually, Reader's Digest and even Consumers Union in that period of time were measuring tar and nicotine yields on cigarettes and reporting them in their publications.

This points out the need for a standardized test method, because we were measuring a higher number, I think it was like 38-milligrams, whereas Reader's Digest was measuring only 31. We ultimately did get a standardized test method so one could actually make direct comparisons with

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cigarettes.
Q. This was a method used by American Tobacco Company; wasn't it?
A. That was the -- the American Tobacco Company did develop a procedure that ultimately Reader's Digest and Consumer's Union tried to implement. But it wasn't a standardized test method, and obviously we don't get the same results.
Q. But in any event, they used the same method on all the cigarettes they tested; right?
A. That's what I'm saying. It's not exactly the same method, because it wasn't a standardized method. It can be the same approach. Yeah, you'd put together a smoking machine, and you go through a process, but it wasn't until a few years later that we developed a standardized process where you get -- or standardized method where you get the same numbers from laboratory to laboratory to laboratory.
Q. Well, in any event, Reader's Digest found over here -- that's -- that Marlboro -- I mean, excuse me -- that Winston, that Winston was actually higher than the Camel, the filter cigarette was higher than the regular cigarette, wasn't it, when they first came out with it?

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A. That's what these numbers show. I'm telling you there wasn't a standardized test method, and in fact, our measurement of Camel was about 38-milligrams, not 31.

Q. Well, if somebody just happened to read this article -- well, you didn't -- for whatever reason, Reynolds didn't tell the public how much tar was in the cigarette back in 1954 when Winston came out, did it?

MS. PARKER: Your Honor, may I have a continuing objection here? Winston is not a cigarette Mr. Kenyon smoked. So I have a relevancy objection.

THE COURT: Well, I'll overrule the objection. You can answer the question, if you can, and just make your objections as they come up.

THE WITNESS: I'm sorry, can you repeat the question.

BY MR. ACOSTA:

Q. Back in 1954, Reynolds didn't tell the public how much tar was in a Winston, did they?

A. No, I don't believe they did. But obviously Reader's Digest, Consumer's Union were making their own measurements and telling consumers,

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and consumers were becoming aware of tar levels, whether they were right numbers or wrong numbers. They were becoming aware of tar levels, and that ultimately resulted in the establishment of a standardized method and, in fact, reporting tar numbers in advertising.

MR. ACOSTA: Excuse me one second.

Q. You -- you know how Reader's Digest looks, don't you? It's a little magazine that has sometimes 20, 25 or 30 articles in it?

A. Sure. Comes to my house.

Q. And I have a little bound volume here from 1959. And on the cover of each one they list a number of articles that are in there; correct?

A. Sure.

Q. And for 1959 there was 250, 300 articles? For each year there's about 250, 300 articles for Reader's Digest?

A. I don't know. There's a lot of articles.

Q. R.J. Reynolds didn't own Reader's Digest, did it?

A. No, of course not.

Q. R.J. Reynolds didn't put stories in the Reader's Digest, did it?

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A. No.
Q. Now, it also indicates on this chart that Salem at that time -- it was actually higher in tar than the Camel as well, wasn't it? Can you see that okay?
A. It shows 33.
Q. True?
A. Are you asking if it's higher?
Q. Well --
A. That number is higher, but again, you know there wasn't a standardized test method, but those numbers are the numbers.
Q. And that Salem was also a filtered cigarette, wasn't it?
A. Salem was a filtered cigarette introduced in 1956.
Q. Now, as I recall your testimony, you said that benzo[a]pyrene was mentioned in a 1950 Reader's Digest?
A. It was mentioned because scientists were suspecting that benzo[a]pyrene was present in smoke, that's correct.
Q. Well, you know, that it had been isolated by scientists as indicated by Dr. Teague as early as the -- late 1930s; true?

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A. No. It had been suspected to be in cigarette smoke. There was some indication that it might be. Actually, it wasn't isolated until the 1950s, and in fact, Dr. Rodgman was the first to isolate pure crystalline benzo[a]pyrene from smoke. Other scientists actually had identified it by other means in the same time frame.

Q. For example, Brown & Williamson in 1952, had previously isolated benzo[a]pyrene in cigarette smoke?

A. No.

Q. True?

A. No. I think there were a number of laboratories, I think, including B & W, that claimed that they had identified -- isolating it means you actually isolate it -- you isolate it from a fraction of smoke, and you develop -- or you purify it into crystalline pure form that you can then completely characterize. But I think other laboratories had provided some tentative identification of benzo[a]pyrene.

Q. And they had used spectros --

A. Spectroscopy.

Q. Spectroscopy. That's how they had found it; correct?

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A. Yeah. There's a lot of different types of spectroscopy; infrared spectroscopy and ultraviolet spectroscopy was what people used then.

Q. That's what they used?

A. And ultraviolet spectroscopy is not definitive proof. You really have to have at least several different types of identification, which the you put together, and it makes a complete story.

For example, you have an infrared spectroscopy analysis. You might have ultraviolet spectroscopy analysis. You might have a melting point value, and you might even do -- well, today we'd do a mass spectrometry analysis. And that is really definitive.

But the point is, especially back in the '50s, you had to conduct multiple types of experiments. And it was like a Sherlock Holms story I was telling you yesterday where you put all the pieces together and you deduce what you think that structure is.

Q. Well, that had been deduced by Dr. Roffo back in 1937 or 1939; true?

A. Well, it's been a long time since I looked at Dr. Roffo's papers. I think he certainly suspected it. I think a number of other scientists

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suspected it. And may even have some preliminary indication. But a positive identification, I don't think came until the '50s.

Q. By positive identification, as you suggest, that means you can like put it in your hand; right? Means you can get your fingers on it somehow?

A. That was Dr. Rodgman's criteria.

Q. And he definitely did that in 1956, didn't he?

A. He did that in the 1950s, yes.

Q. But you mentioned that it was mentioned back in 1950, but they didn't tell the public in the Reader's Digest that it was a carcinogen, did they?

A. I believe they did, yes.

Q. Well, that's --

A. I believe they said it was a suspected carcinogen.

Q. You might be right, but let's looks and see. Because I might have read it wrong.

A. It's at the bottom of the first page. Right hand column.

Q. Okay. It says at the bottom there "medical men, however, have not proved the case against them, but two of the chemicals are under grave suspicion. Benzo[a]pyrene, which chiefly

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affects the respiratory tract in nicotine."
I don't see -- I think there is another reference in here somewhere to benzo[a]pyrene.
A. I thought there was, too.
Q. But it doesn't -- hang on a second.
Okay. There is a page 3. The brown stain -- let's see. Go down here. "Many physicians suspect that its main constituent, benzo[a]pyrene, though an irritant, rather than a poison, is a greater threat to heavy smokers than nicotine."
Now, Doctor, I'll be happy to show this to you. If you can find any place in this article where it suggests that benzo[a]pyrene is a carcinogen.
A. Okay. You may be right, yeah.
MS. PARKER: Your Honor, under the Rule of Completeness, if I could ask Mr. Acosta to read page 7 -- I have it highlighted.
MR. ACOSTA: Can I look at it first, Judge?
THE COURT: You may show that to Mr. Acosta.
Is there -- Mr. Acosta, were you going to have the witness review the article as well?

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MR. ACOSTA: Well, I'll be happy to read this, but I don't think that it's -- it -- it will lessen the Rule of Completeness, but I'll be happy to read it.

THE COURT: Let the witness see the article, and then you may publish the portion.

MR. ACOSTA: (Hands item to the witness.)

THE WITNESS: Mr. Acosta. (handing item to counsel).

THE COURT: Go ahead and publish that portion of the article.

MR. ACOSTA: Yes, sir. There's probably another portion that I'll publish as well.

"Will cigarettes induce cancer? For every expert who blames tobacco for the increase in cancer of the lung, says Dr. Charles S. Camron, Medical Director of the American Cancer Society, there's evidence that says tobacco is not the cause. The ACS formally states that there is not answer generally accepted as scientifically valid. The question is being examined carefully. Within a year there may be sufficient data to

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publication.

This probably refers to the most extensive and reliable research yet made in this field which is now being completed by Dr. Everts Graham and Dr. Ernst Wynder, one of the senior medical students at the Washington University, St. Louis. Dr. Graham's studies will cover close to two thousand persons in St. Louis, New York, Chicago and Salt Lake. The last because orthodox Mormons do not smoke and therefore offer excellent control.

It is expected to show that over 95 percent of patients with lung cancer smoke a pack of cigarettes a day or more and have done so for many years."

And I want to read the -- is there more?

MS. PARKER: Yes, Your Honor. The very next couple of sentences.

MR. ACOSTA: Oh, okay.

"Will you be able to say clearly that smoking causes lung cancer, I asked? Dr. Graham shook his head. No, he replied, but we'll say that it's curious how very few non-smokers develop lung cancer. Very few is

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one-half of one percent of the victims of this disease. This contrasts with the 95-percent who are steady smokers. Cancer of the lung, Dr. Graham stresses, has shown as shocking increase in the last 35 years as a possible cause, he says. We must look for some factor in our civilization which has shown a similar increase. We eliminated carbon monoxide after examining traffic policemen that breathe it in large quantities."

And then you remember, Doctor, that this article ends with the author suggesting, "well, eight cigarettes a day is okay. Just smoke moderately." You remember that's how it ends?

A. In a general sense.

Q. That was in 1950; right?

A. (Nods head.)

MS. PARKER: Your Honor, the Rule of Completeness, I'd like you to ask that the next sentence there be read as well that Mr. Acosta quoted from.

MR. ACOSTA: I didn't quote, but I don't know what sentence you want me to read.

THE COURT: Ms. Parker. Mr. Acosta.

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Ms. Parker --
MR. ACOSTA: Can you point out to me --
MS. PARKER: Here it is.
MR. ACOSTA: Hang on a second.
"Eight cigarettes a day apparently no harm. No normal person. No one should indulge in smoking as much as he wants to. Everyone should smoke less, if only for the reason that one enjoys it more."
So now, let me read this. Page 3.
THE COURT: Same article?
MR. ACOSTA: Same article. "On the other hand, in hearings before the Federal Trade Commission, Dr. Alvan L. Barach of New York, a witness for a cigarette manufacturer asserted, "I don't believe cigarette smoking produces any damage with respect to the lung."
MS. PARKER: Your Honor, is there a question?
MR. ACOSTA: Yes, there is. I need to regroup. Excuse me.
(Pause.)
Q. So, in any event, Reynolds in 1956 determined that cigarettes contain a number these

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polycyclic aromatic hydrocarbons; correct?
A. Yes.
Q. Dr. Rodgman found that there was at least eight of them that were carcinogenic; right?
A. Yes.
Q. Benzo[a]pyrene was just one of them; right?
A. That's correct.
Q. We believe that that article that you referred to doesn't indicate that it was carcinogenic in 1950. And Reynolds, though, started attempting to take it out of the cigarette, benzo[a]pyrene; correct?
A. Yes. And it was a very large program trying to determine how to reduce or eliminate benzo[a]pyrene and other polycyclic aromatic hydrocarbons from smoke.
Q. And that was because benzo[a]pyrene was a chemical thought to cause cancer; correct?
A. It was because the benzo[a]pyrene was considered a carcinogen, all be it, not a human carcinogen necessarily, but it was considered a carcinogen, because in mouse skin painting studies where scientists put pure benzo[a]pyrene on the backs of mice, tumors were generated. Because it was

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considered to be a carcinogen and also thought to be in smoke, which we ultimately confirmed, it makes all the sense in the world to do everything you can to try to reduce or eliminate benzo[a]pyrene from smoke.

Q. When you say benzo[a]pyrene is not necessarily a carcinogen, are you retracting what we established a few minutes ago from the IARC that it was a probable human carcinogen?

A. What you're saying is different than what I said. What I said was it's not necessarily a human carcinogen. IARC has not listed it as a known human carcinogen. It lists it as a 2A or 2B. I can't remember.

Q. Which we discussed earlier, it was a probable human carcinogen; correct?

A. Yes.

Q. And the other polycyclic aromatic hydrocarbons, those are also either probable or possible human carcinogens; correct?

A. That is correct.

Q. And Dr. Rodgman found at least eight of them back in 1956; right?

A. Yes.

Q. And so, wouldn't you agree that it would be a good thing to take them all out of the

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cigarette?
A. I agree that would be a good thing.
Q. Every bit of them?
A. Completely eliminate polycyclic aromatic hydrocarbons from smoke, that would be a good thing, no question about it.
Q. Completely.
Now, a carcinogen by definition means something that will cause cancer; correct?
A. Well, that would be my non-biology definition, yes.
Q. Okay. You mentioned genetic testing, I believe, yesterday; right? One of your boards had p53?
A. Briefly mentioned that, yes.
Q. The p53 is a human gene, isn't it?
A. Yes.
Q. That's the gene that controls whether or not a cell reproduces uncontrollably?
A. In a general sense I think you're right. Again, I'm not a biologist, but my understanding that's a general picture of it.
Q. Well, unfortunately, I'm a lawyer, and I'm not a biologist either. So, I'm going to ask you the questions and see if we can answer them.

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And the tests that Reynolds has done has been to determine -- now, in p53 -- that's a small molecule itself, isn't it?

A. Compared to what? DNA; yes.

Q. DNA is kind of a big molecule like 3 billion molecules all attached together?

A. Tremendous molecule.

Q. And they're made out of four chemicals; right?

A. Basically.

Q. And those four chemicals form a coded network, spiral helix, that tells the cell what to do; right?

A. That's generally right. Not bad for a lawyer.

Q. And what happens, at least in theory, is that a carcinogen like phenanthrene or benzo[a]pyrene or cholanthrene or chrysene, one of these chemicals is found in cigarettes, 43 of 'em, as of '89 -- those molecules attach to or affect -- let's just forget the attached business. Those molecules affect the structure of the DNA? That the theory, isn't it?

A. Yeah. Actually there are D -- basically, yes. There are DNA adducts formed, not

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from benzo[a]pyrene, but benzo[a]pyrene actually undergoes another reaction to form an epoxide and even a diol, which is sort of a modification of benzo[a]pyrene itself. And that occurs when the body metabolizes benzo[a]pyrene.

Then this new compound that's formed from benzo[a]pyrene can attack DNA and form an adduct. So, it's adding to a portion of DNA. That's our best understanding at this point.

Q. Do you believe that a metabolized benzo[a]pyrene damages the p53 gene, or it can?

A. I think there's evidence it can, yes.

Q. And when it does that, if the cell is mutated, for whatever reason, once it starts to reproduce, it can't stop; correct?

A. Well, again, you're way outside my area, but that would be a general picture of it, yes.

Q. And that would be cancer, wouldn't it?

A. It would be related to tumor formation.

Q. So, that's a pretty good reason why you'd want to take all the benzo[a]pyrene out of the cigarette; correct?

A. I think there's a number of reasons to take benzo[a]pyrene out completely. The top line answer is because it is a carcinogen, no matter what

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mechanism. It's a carcinogen as demonstrated by mouse skin painting tests. It's a carcinogen as defined by IARC, the International Agency for Research on Cancer. And for those reasons regardless of how it does what it does, one needs to completely eliminate or reduce as much as possible the levels in smoke.

MR. ACOSTA: Hang on a second. I want to find something here.

THE COURT: As you're doing that. Why don't you just approach for just a second, Mr. Acosta, Ms. Parker.

(Thereupon, the following bench conference was had:)

MR. ACOSTA: This would be a good time to break, actually.

THE COURT: How much longer do you have.

MR. ACOSTA: Probably a couple of hours.

THE COURT: Okay.

(Thereupon, the bench conference was concluded.)

THE COURT: All right, ladies and gentlemen, we'll take our lurch break at this

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point. And we'll see you back here at 1:30.

(Thereupon, the jury exited the courtroom.)

(Thereupon, an off-the-record discussion was had.)

THE COURT: You're in the middle of your testimony. So don't talk to anybody. Ladies and gentlemen, court will be in recess until 1:30.

(Thereupon, a recess was had at 12:00 p.m.)

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COURT REPORTER'S CERTIFICATE

STATE OF FLORIDA)
CIRCUIT OF HILLSBOROUGH)

I, SHERRILL LYNN JACKSON, Court Reporter for the 13th Judicial Circuit of the State of Florida, in and for Hillsborough County,

DO HEREBY CERTIFY that I was authorized to and did report in shorthand the proceedings and evidence in the above-styled cause, as stated in the caption hereto, and that the foregoing pages numbered 1921 to 2004, inclusive, constitute a true and correct transcription of my shorthand report of said proceedings and evidence.

Dated this 27th day of November, 2001.

_____
Sherrill Lynn Jackson, RPR

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